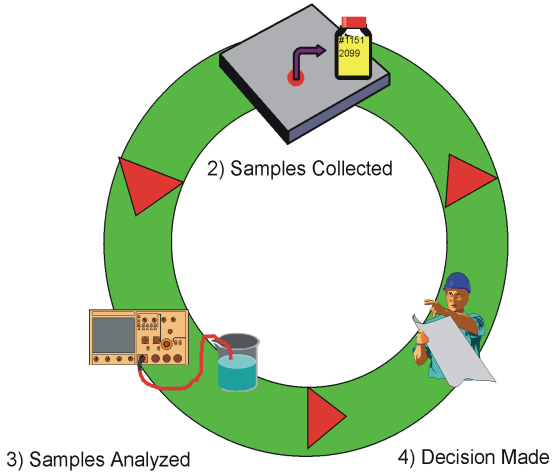
Adaptive Sampling and Analysis Programs (TechID 2946)

The Adaptive Sampling and Analysis Programs (ASAPs) approach makes use of real-time data collection techniques and in-field decision-making methodologies to guide the progress of data collection activities. The advantages of this approach include reduced analytical costs per sample, a reduction in the number of samples and data collected, and a better characterization survey. Three software products developed to support ASAPs include (1) SitePlanner and SiteView, object-oriented geographic information systems customized for characterization work, (2) the MaD browser (MaDCoW) for dynamic display of maps and data over the Web, and (3) Plume, a Bayesian geostatistical package for designing ASAPs to delineate the extent of contamination. The most recent developments have focused on integrating these technologies into soil remediation actions to make those actions more precise.

1) Planning Phase



Developers:

- Argonne National Laboratories Bob Johnson, PI (rljohnson@anl.gov)
- ConSolve, Inc. (info@scisoftware.com)

Applications:

- Several deployments in conjunction with soil excavation and remediation engineering evaluations.

Benefits:

- Greatly reduced sampling and analysis costs.
- Completion of field characterization and remediation in one field work cycle.
- Reduction of remediation footprint through precise delineation of contamination.

Status:

- Consult with Argonne National Laboratory PI, Bob Johnson (630-252-7004) for guidance on approach.
- SiteView software available from The Software Group (www.scisoftware.com).
- Plume and MaDCoW software available from ANL.
- Innovative Technology Summary Report Available (www.cmst.org)